

# ABSTRACT

Methods of making collagen with hosts, and vectors that express collagen, and collagen post-translation enzymes are disclosed. Collagen post-translation enzymes include prolyl-4-hydroxylase, lysyl hydroxylase, lysyl oxidase, C-proteinase, and N-proteinase, and these enzymes increase the yield of properly folded, recombinant collagen in non-mammalian hosts. The collagens produced by these methods, hosts, and vectors include both homotrimer and heterotrimer collagen made from single or multiple collagen genes, respectively.

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